

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Claims 1-7 are all the claims pending in the application. Applicant respectfully submits that the pending claims define patentable subject matter.

Claim 5 is objected to because of a grammatical informality. By this Amendment, Applicant has amended claim 5 as recommended by the Examiner. Accordingly, the Examiner is requested to remove the objection to claim 5.

Claims 1-7 are pending in the application. Claims 1-3, 6 and 7 are rejected under 35 U.S.C. § 103(a) as being anticipated by Tremblay et al. (U.S. Patent No. 4,823,360; hereafter “Tremblay”) in view of Sakamoto et al. (U.S. Patent No. 5,36,875; hereafter “Sakamoto”). Claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Tremblay in view of Sakamoto and Bulow (U.S. Patent No. 6,016,379). Applicant respectfully traverses the prior art rejections.

With regard to the independent claims, the Examiner asserts that Tremblay discloses all of the features of the claimed invention except for first and second regulators which correct the first and second threshold values based on comparisons between the first and second internal control variables and first and second setpoint values, respectively. However, the Examiner cites Sakamoto for allegedly disclosing “a ‘discriminator’ circuit ... with a similar structure to the regenerator of Tremblay et al. (figs. 1 and 5 and col. 5, line 65 to col. 6, line 67), where the circuit uses regulators (fig. 5, elements 22 and 23).” The Examiner further asserts that “[i]t would have been obvious ... to use the regulators [of Sakamoto] for the output of the integrators

of Tremblay et al., in order to provide the benefit of comparing thresholds derived from the regenerator of Tremblay et al. with reference voltages for controlling the thresholds, based on the teachings of Sakamoto et al.”

Applicant respectfully submits that one of ordinary skill in the art would not have been motivated to modify Tremblay based on Sakamoto to produce the claimed invention.

Although the Examiner position with regard to how Tremblay would be modified based on Sakamoto is not clear, as best understood, it appears that the Examiner is asserting that Sakamoto’s comparator 23 would be inserted between the output of difference integrator (formed by elements 60, 64 and 68) and the V+ input of the performance monitor 26, and Sakamoto’s comparator 22 would be inserted between the output of difference integrator (formed by elements 62, 66 and 70) and the V- input of the performance monitor 26. However, such modification would impermissibly change the principle of operation of Tremblay’s data regenerator and render the resulting device unsatisfactory for its intended purpose.¹

Simply adding Sakamoto’s comparator 23 between the output of difference integrator (formed by elements 60, 64 and 68) and the performance monitor 26 and adding Sakamoto’s comparator 22 between the output of difference integrator (formed by elements 62, 66 and 70) and the performance monitor 26 would render the threshold levels V+, V- and Vopt unacceptable

¹ It is well established that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Similarly, if the proposed modification would render the prior art invention unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

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for use as reference signals provided to the inverting inputs of differential amplifier 40, 42 and 44 and render the regenerator inoperable. That is, one of ordinary skill in the art would readily realize that adding Sakamoto's comparators 22 and 23 as proposed by the Examiner would result in the threshold levels $V+$, $V-$ and V_{opt} no longer being voltages which produce predetermined bit error rates in the regenerated data signals.

Further, Tremblay's data regenerator already uses reference voltages for controlling the thresholds, i.e., the values of the threshold levels $V+$ and $V-$ which are input to amplifiers 40 and 42 are controlled based on reference levels V_{ref+} and V_{ref-} . Thus, one skilled in the art would not be motivated to change the regenerator of Tremblay based on the Examiner's rationale since it already possesses the benefits of the proposed modification. In other words, since the Examiner's sole reasoning for modifying the data regenerator of Tremblay based on the disclosure of Sakamoto is to accomplish something that is already present in the Tremblay reference, the Examiner has failed to provide a convincing line of reasoning of why one skilled in the art would have found the combination of the teachings of the cited references obvious.²

Accordingly, Applicant respectfully submits that independent claims 1, 4, 6 and 7, as well as dependent claims 2-3 and 5, would not have been rendered obvious in view of Tremblay

² The mere fact that a reference can be modified does not render the resultant modification obvious unless the prior art suggest the desirability of the modification. See *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). It is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This burden can only be satisfied by an objective teaching in the prior art or by cogent reasoning that the knowledge is available to one of ordinary skill in the art. See *In re Lahu*, (747 F.2d 703, 223 U.S.P.Q. 1257 (Fed. Cir. 1984)).

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and Sakamoto because one of ordinary skill in the art would not have been motivated to modify Tremblay based on Sakamoto to produce the claimed invention.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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